Highly Enantioselective α -Aminoxylation of Aldehydes and Ketones Using Ionic Liquids as Green Solvents and Immobilizing Media of Chiral Organocatalyst

Kun Huang Zhi-Zhen Huang* and Xin-Liang Li

*School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, P.
R. China.*

E-mail: huangzz@nju.edu.cn

Supporting Information

Contents

Experimental Section	2-5
¹HNMR Spectra	6-15
MS Spectra	16-25
HPLC Spectra	26-43

Experimental Section

¹H NMR spectra were determined in CDCl₃ on a Bruker ARX-300(300MHz) with TMS as internal standard. Electrospray ionization mass spectrum were recorded on VG ZAB-HS Electrospray Mass Spectrometers. IR spectra were taken with a 5DX-FT-2 spectrometer. The enantiomer excess was determined by HPLC analysis on a chiralcel AD-H or a OD-H column. The room temperature ionic liquids were prepared following reported procedures.¹ Nitrosobenzene was prepared according to literature procedure.²

General Procedure of L-Proline Catalyzed Direct Asymmetric α -Aminoxylation of Aldehydes in Ionic Liquids.

The mixture of aldehyde (1.8 mmol), nitrosobenzene (96.5 mg, 0.9 mmol) and L-proline (catalytic amount) in ionic liquid (1mL) was stirred at room temperature for the time indicated in Table 1-3. After the aminoxylation reaction was completed, the reaction mixture was extracted with ethyl ether (10mL×4). To the combined ether layer was added the solution of sodium borohydride (171 mg, 4.5 mmol) in ethanol (10 mL). The reaction mixture was stirred for 10 minutes at room temperature. Then, the reaction was quenched with water (10mL) and the resulting mixture was extracted with ethyl acetate (5mL×3). The combined organic extracts were dried over anhydrous magnesium sulfate and concentrated in vacuo after filtration. Purification by column chromatography (silica gel, ethyl acetate-petroleum ether as eluant) gave (2*R*)-2-aminoxy alcohol **2a-f** in good to excellent yield.

(2*R*)-2-Anilinoxypropanol (2a)³: ¹H NMR δ (ppm) 1.28 (3H, d, $J=6.4$ Hz), 3.72 (1H, dd, $J=12.0, 6.6$ Hz), 3.80 (1H, dd, $J=12.0, 2.9$ Hz), 4.09-4.13 (1H, m), 6.98-7.01 (3H, m), 7.27-7.32 (2H, m); IR(KBr) ν (cm⁻¹) 3425, 2925, 1718, 1603, 1494, 1050, 770, 691; MS(EI) m/z (%) 167.0(M⁺, 8.54), 109.0(37.96), 93.0(100), 77.0(57.81), 66.0(56.57), 45.0(52.68).

(2*R*)-2-Anilinoxybutanol (2b)³: ¹H NMR δ (ppm) 1.02 (3H, t, $J=7.5$ Hz), 1.54-1.64

(1H, m), 1.69-1.77 (1H, m), 3.74- 3.80 (1H, m), 3.85-3.93 (2H, m), 6.99-7.02 (3H, m), 7.23 (2H, t, $J=7.6$ Hz); IR (KBr) $\nu(\text{cm}^{-1})$ 3419, 3052, 2929, 1602, 1462, 1118, 1049, 968, 899, 769; MS(EI) $m/z(\%)$ 181.1(M^+ , 25.31), 115.0(8.28), 93.0(100), 77.0(40.45), 73.1(73.77), 66.1(65.21), 57.0(59.40), 45.0(52.68).

(2R)-2-Anilinoxypentanol (2c)³: ^1H NMR $\delta(\text{ppm})$ 0.91 (3H, m), 1.42-1.54 (3H, m), 1.64-1.71 (1H, m), 3.76 (1H, dd, $J=12.0, 6.3$ Hz), 3.84 (1H, dd, $J=12.0, 2.6$ Hz), 3.94-3.98 (1H, m), 6.98-7.01 (3H, m), 7.27-7.32 (2H, m); IR (KBr) $\nu(\text{cm}^{-1})$ 3410, 3276, 2958, 2935, 2872, 1602, 1492, 1463, 1124, 1046, 898, 772, 693; MS(EI) $m/z(\%)$ 195.1(M^+ , 13.84), 117.1(18.93), 109.1(69.51), 93.1(100), 77.1(33.04), 66.2(66.71), 45.2(20.28).

(2R)-3-Methyl-2-anilioxypentanol (2d)³: ^1H NMR $\delta(\text{ppm})$ 0.94 (3H, d, $J=6.9$ Hz), 1.05 (3H, d, $J=6.9$ Hz), 2.01-2.08 (1H, m), 3.74-3.77 (1H, m), 3.83-3.92 (2H, m), 6.98-7.04(3H, m), 7.26-7.32 (2H, m); IR (KBr) $\nu(\text{cm}^{-1})$ 3381, 3269, 2960, 2930, 1601, 1493, 1468, 1055, 1023, 899, 770, 693; MS(EI) $m/z(\%)$ 195.2(M^+ , 12.82), 115.1(11.15), 109.1(75.37), 93.1(100), 77.0(27.70), 73.1(80.99), 66.1(98.37), 45.0(16.93).

(2R)-2-Anilinoxylhexanol (2e)³: ^1H NMR $\delta(\text{ppm})$ 0.92 (3H, t, $J=9.7$ Hz), 1.27-1.46 (6H, m), 3.75-3.86 (2H, m), 3.89-3.99 (1H, m), 6.93-7.02 (3H, m), 7.23-7.29 (2H, m); IR (KBr) $\nu(\text{cm}^{-1})$ 3440, 3265, 2851, 1602, 1452, 1091, 1035, 918, 729; MS(EI) $m/z(\%)$ 209.2(M^+ , 7.13), 131.1(14.51), 109.1(68.82), 93.1(94.55), 77.1(23.56), 66.1(75.26), 45.1(49.71), 44.1(100).

(2R)-3-Phenyl-2-anilinoxypentanol (2f)³: ^1H NMR $\delta(\text{ppm})$ 2.86 (1H, dd, $J=13.7, 7.0$ Hz), 3.06 (1H, dd, $J=13.7, 7.0$ Hz), 3.71 (1H, dd, $J=11.8, 5.8\text{Hz}$), 3.93 (1H, d, $J=12.0$ Hz), 4.17 (1H, m), 6.88(2H, d, $J=7.5\text{Hz}$), 7.01 (1H, t, $J=7.5$ Hz), , 7.10-7.23 (8H, m); IR (KBr) $\nu(\text{cm}^{-1})$ 3376, 3027, 2936, 1601, 1493, 1453, 1241, 1034, 913, 745, 699; MS(EI) $m/z(\%)$: 243.0(M^+ , 0.11), 136.0(38.83), 117.1(85.34), 109.0(2.36), 93.0(31.24), 91.0(100), 77.0(47.71), 65.0(49.27), 51.0(42.33).

General Procedure of Asymmetric α -Aminoxylation of Ketones in Ionic Liquids.

The mixture of ketone (2.7 mmol), nitrosobenzene (96.5 mg, 0.9 mmol) and *L*-proline (catalytic amount) in ionic liquid (1mL) was stirred at room temperature for the time indicated in (Table 2). After the aminoxylation reaction was completed, the reaction mixture was extracted with ethyl ether (10mL $\times$ 4). Then, the combined organic extracts were concentrated in vacuo to give crude product, which was purified by column

chromatography (silica gel, ethyl acetate-petroleum ether as eluant) to afford (2*R*)-2-aminoxycetone **1g-i** in moderate to good yield.

(2*R*)-2-Anilinoxycyclohexanone (1g)⁴: ¹H NMR δ (ppm) 1.69-1.85 (3H, m), 1.99-2.05 (2H, m), 2.35-2.50 (3H, m), 4.42 (1H, dd, $J=11.6, 6.2$ Hz), 6.95 (3H, t, $J= 8.1$ Hz), 7.27 (2H, t, $J=7.6$ Hz), 7.85(1H, s); IR (KBr) $\nu(\text{cm}^{-1})$ 3064, 2992, 2939, 2860, 1725,1678, 1597, 1496, 1294, 1241, 1167, 1089, 1064, 1031, 746, 688; MS(EI) $m/z(\%)$: 204.9(M^+ , 26.68), 186.8(7.05), 112.0(76.10), 109.0(20.16), 93.0(100), 83.0(51.99), 77.0(32.46), 66.7(89.79), 56.0(90.23).

(3*R*)-3-Anilinoxytetrahydro-pyran-4-one(1h)⁴: ¹H NMR δ (ppm) 2.61 (1H, dt, $J=14.3, 2.9$ Hz), 2.71-2.73 (1H, m), 3.69-3.78 (2H, m), 4.21-4.23 (1H, m), 4.35-4.39 (1H, m), 4.45-4.54 (2H, m), 6.93-7.02 (3H, m), 7.26-7.31 (2H, m), 7.80 (1H, s); IR (KBr) $\nu(\text{cm}^{-1})$ 3261,2966, 2927, 2885, 2362, 1725, 1598, 1492, 1209, 1122, 1078, 1002, 968, 781, 701; MS(EI) $m/z(\%)$ 207.0(M^+ , 5.78), 179.9(27.02), 129.9(12.77),100.0(38.30), 93.0(100), 77.0(84.33), 66.0(55.55), 57.0(48.34), 55.0(44.08).

(3*R*)-3-Anilinoxy-1-benzylpiperidin-4-one(1i)⁴: ¹H NMR δ (ppm) 2.47-2.51 (2H, m), 2.61 (1H,m), 2.64-2.69 (1H, m), 3.10-3.11 (1H, m), 3.49-3.51 (1H, m), 3.66 (1H, d, $J=13.2$ Hz), 3.77 (1H, d, $J=13.2$ Hz), 4.60 (1H, dd, $J=6.5, 10.1\text{Hz}$), 6.91-6.70 (3H, m), 7.26-7.39 (7H, m), 7.82 (1H, brs); IR (neat) $\nu(\text{cm}^{-1})$ 3437, 3284, 2958, 2912, 2886, 1726, 1600, 1493, 1290, 1190, 1131, 1076, 904, 741, 696; MS(EI) $m/z(\%)$ 296.1(M^+ , 0.15), 202.9(14.49), 188.9(35.70),146.0(11.18), 112.0(29.06), 91.1(100), 77.0(35.87), 66.0(46.24), 56.0(44.64).

Reference

1. (a) Dupont, J.; Consorti, C. S.; Suarez, P. A. Z.; de Souza, R. F.; Fulmer, S. L.; Richardson, D. P.; Smith, T. E.; Wolff, S. *Org. Synth.* **2002**, 79, 236. (b) Park, S.; Kazlauskas, R. J. *J. Org. Chem.* **2001**, 66, 8395.
2. Defoin, A., *Synthesis*, **2004**, 706.
3. Zhong, G. *Angew. Chem., Int. Ed.* **2003**, 42, 4247.
4. Hayashi, Y.; Yamaguchi, J.; Sumiya, T.; Shoji, M. *Angew. Chem., Int. Ed.* **2004**, 43, 1112.

¹HNMR

(2R)-2-Anilinoxypropanol (2a)

(2R)-2-Anilinoxybutanol (2b)

(2R)-3-Methyl-2-anilioxypentanol (2d)

2005-1-9 1#

(2R)-2-Anilinoxyhexanol (2e)

(2R)-3-Phenyl-2-anilinoxipropanol (2f)

(2R)-2-Anilinoxycyclohexanone (1g)

(3R)-3-Anilinoxytetrahydropyran-4-one(1h)

(3R)-3-Anilinoxy-1-benzylpiperidin-4-one(1i)

hk-125-COC13

ppm

MS

(2R)-2-Anilinoxypropanol (2a)

File Name : c:\mswin\data\huang-5a.mss
Creation Date/Time : 06/03/03 at 12:01:44
File Type : Lo-Res Mass Data (Centroid)
File Source : Acquired on MASPBC system [msw/96C9]
File Title : RES1000,m600-m40,D0.5SCAN: 1.5S/Dec,BI,VG ZAB-HS

SCAN GRAPH. Flaggings-M/z.

Scan 42-0: 46. Entries=170. 100% Int.=834192.

SCAN TEXT. Filter=[Int: 1%, Range: 0-180.].

Scan 42-0: 46. Sorted on M/z (descending). Entries=83.

M/z	Int.	Width	%age	M/z	Int.	Width	%age
171.0	21103	16	2.53	91.0	155922	17	18.69
168.1	10013	14	1.20	90.0	11616	17	1.39
167.0	71237	16	8.54	88.9	10678	17	1.28
166.0	12326	16	1.48	87.0	54246	18	6.50
153.0	22115	17	2.65	86.0	21465	18	2.57
152.0	27348	18	3.28	85.0	20996	18	2.52
149.0	10030	16	1.20	84.0	12218	15	1.46
133.0	12446	17	1.49	83.0	22643	18	2.71
129.0	15624	16	1.87	82.0	9295	16	1.11
128.0	17308	16	2.07	81.0	12190	15	1.46
119.0	15429	16	1.85	80.0	17899	17	2.15
118.0	17869	16	2.14	79.0	44087	18	5.28
117.0	24597	15	2.95	78.0	190491	18	22.84
116.0	14172	16	1.70	77.0	482267	19	57.81
115.0	140449	18	16.84	76.0	47901	16	5.74
114.0	22112	17	2.65	75.0	44718	18	5.36
111.0	14167	18	1.70	74.0	45864	16	5.50
110.0	25248	17	3.03	73.0	18480	18	2.22
109.0	316695	18	37.96	72.0	12826	16	1.54
108.0	119230	18	14.29	71.0	46851	21	5.62
107.0	30018	19	3.60	70.0	76468	17	9.17
106.0	16055	16	1.92	69.0	41008	19	4.92
105.0	104656	18	12.55	68.0	9917	15	1.19
104.0	36536	17	4.38	67.0	103325	17	12.39
103.0	10295	16	1.23	66.0	471927	18	56.57
102.0	9032	14	1.08	65.0	404298	18	48.47
101.0	65464	18	7.85	64.0	134956	19	16.18
99.0	16961	19	2.03	63.0	163532	17	19.60
98.0	18738	18	2.25	62.0	60159	17	7.21
97.0	11914	16	1.43	61.0	70144	17	8.41
95.0	16040	17	1.92	60.0	14751	17	1.77
94.0	114539	17	13.73	59.0	136672	18	16.38
93.0	834192	19	100.00	58.0	107404	18	12.88
92.0	397654	18	47.67	57.0	239093	18	28.66

(2R)-2-Anilinoxybutanol (2b)

File Name : c:\mswin\data\bksub.mss
Creation Date/Time : 06/03/03 at 10:01:56
File Type : Lo-Res Mass Data (Centroid)
File Source : Acquired on MASPEC system [msw/96C9]
as c:\mswin\data\huang-1.mss
File Title : RES1000, m600-m40, D0.5SCAN: 1.5S/Dec, BI, VG ZAB-HS
Source File : c:\mswin\data\huang-1.mss
Source Scan(s) : 139
Bkg. File : c:\mswin\data\huang-1.mss
Bkg. Scan(s) : 55

SCAN GRAPH. Flaggings=M/z.

Scan 1-2: 35. Entries=179. 100% Int.=806558.

SCAN TBXT. Filter=[Int: 5%].

Scan 1-2: 35. Sorted on M/z (descending). Entries=49.

M/z	Int.	Width	%age	M/z	Int.	Width	%age
181.1	204126	18	25.31	66.1	526412	18	65.27
115.0	66794	16	8.28	65.1	511369	17	63.40
110.1	142066	18	17.61	64.0	144123	19	17.87
109.1	720664	18	89.35	63.0	159222	18	19.74
108.1	153734	17	19.06	62.0	71367	18	8.85
105.1	74064	18	9.18	61.0	123208	18	15.28
104.1	68997	17	8.55	59.0	233313	19	28.93
103.1	368779	17	45.72	58.0	160149	18	19.86
100.1	41693	17	5.17	57.0	479084	20	59.40
99.1	84433	17	10.47	55.1	404270	19	50.12
98.1	61065	18	7.57	54.0	130224	18	16.15
97.1	50433	17	6.25	53.0	133400	18	16.54
95.1	50838	18	6.30	52.0	152383	18	18.89
94.1	151610	18	18.80	51.0	222948	18	27.64
93.0	806558	18	100.00	50.0	76485	17	9.48
92.0	639441	18	79.28	46.9	78174	39	9.69
91.0	213728	18	26.50	46.5	69889	18	8.67
85.1	255138	17	31.63				
81.0	103421	17	12.82				
79.0	46023	17	5.71				
78.0	178019	18	22.07				
77.0	326256	17	40.45				
76.0	42632	18	5.29				
74.0	49097	18	6.09				
73.1	595018	18	73.77				
72.1	168671	17	20.91				
71.1	283169	18	35.11				
70.1	53427	19	6.62				
69.0	88608	19	10.99				
68.1	75919	17	9.41				
67.1	286847	18	35.56				

(2R)-2-Anilinoxypentanol (2c)

File Name : c:\mswin\data\bksub.mss
Creation Date/Time : 06/03/03 at 10:13:42
File Type : Lo-Res Mass Data (Centroid)
File Source : Acquired on MASPBC system [msw/96C9]
as c:\mswin\data\huang-2.mss
File Title : RES1000, m600-m40, D0.5SCAN: 1.5S/Dec, BI, VG ZAB-HS
Source File : c:\mswin\data\huang-2.mss
Source Scan(s) : 91
Bkg. File : c:\mswin\data\huang-2.mss
Bkg. Scan(s) : 57

SCAN GRAPH. Flagg=M/z.

Scan 1-1: 41. Entries=235. 100% Int.=839055.

SCAN TEXT. Filter=[Int:1%. Range: 42-200.].

Scan 1-1: 41. Sorted on M/z (descending). Entries=122.

M/z	Int.	Width	%age	M/z	Int.	Width	%age
196.2	12453	16	1.48	128.1	11703	17	1.39
195.1	116103	18	13.84	127.1	20227	18	2.41
194.2	19587	18	2.33	126.1	29196	17	3.48
185.4	12691	45	1.51	125.1	34734	18	4.14
173.2	19071	16	2.27	121.1	18733	18	2.23
171.1	19495	17	2.32	120.1	20995	17	2.50
170.1	10314	18	1.23	119.1	112582	18	13.42
164.1	9363	17	1.12	118.1	67305	19	8.02
163.1	9002	16	1.07	117.1	158854	17	18.93
157.2	16729	16	1.99	116.1	20514	37	2.44
156.2	17529	17	2.09	115.1	125431	17	14.95
154.2	12396	19	1.48	114.1	37231	18	4.44
153.1	34305	18	4.09	113.1	38928	18	4.64
152.1	45075	17	5.37	112.1	14819	17	1.77
151.1	17000	18	2.03	111.1	17163	18	2.05
149.1	17709	18	2.11	110.1	81017	18	9.66
148.1	17333	17	2.07	109.1	583241	19	69.51
147.1	14402	16	1.72	108.1	173763	17	20.71
146.1	10312	15	1.23	107.2	61651	19	7.35
144.1	11198	16	1.33	106.2	54965	17	6.55
143.1	16997	17	2.03	105.1	162319	17	19.35
142.1	12358	17	1.47	104.1	97816	19	11.66
139.1	13460	17	1.60	103.1	42976	18	5.12
138.2	31999	17	3.81	102.1	19457	17	2.32
136.1	11128	17	1.33	101.1	39436	17	4.70
135.1	22154	18	2.64	100.1	24984	18	2.98
133.1	13143	17	1.57	99.1	75186	19	8.96
132.1	43111	17	5.14	98.1	16922	21	2.02
130.1	38386	17	4.57	97.1	49302	18	5.88
129.1	20332	17	2.42	96.1	31378	18	3.74

(2R)-3-Methyl-2-anilioxybutanol (2d)

(2R)-2-Anilinoxyhexanol (2e)

(2R)-3-Phenyl-2-anilinoxypropanol (2f)

2-Anilinoxycyclohexanone (1g)

(3R)-3-Anilinoxytetrahydro-pyran-4-one(1h)

(3R)-3-Anilinoxy-1-benzylpiperidin-4-one(1i)

Chiral HPLC

Enantiomeric excesses of (2R)-2-aminoxy alcohols **2** and ketones **3** were determined by HPLC analysis under the condition as follows: Chiralpak AD-H column, $\lambda = 242$ nm, hexane / *i*-PrOH = 91/9-9/1, flow=0.5-1.0mL/min.

2-Anilinoxypropanol (2a-racemic)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-4 10:22:32
Date : 2006-1-4 10:52:02
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 27.24 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-4-1_001.raw
Result File : D:\Huangk\result\hk-2006-1-4-1_001.rst [Editing in Progress]
Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-4-1_001.raw
Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-4-1_001.rst [Editing in Progress]
Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-4-1_001.rst [Editing in Progress]
Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
Sequence File : C:\PenExe\Tc\WS\Ver6.2.0\Examples\hk-2006-1-4-1-20060104-101015.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [$\mu\text{V}\cdot\text{sec}$]	Height [μV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		13.085	67752940.61	2.88e+06	50.44	50.44	66.5684	66.5684
2		15.255	66568371.76	2.30e+06	49.56	49.56	66.5684	66.5684
			1.34e+08	5.18e+06	100.00	100.00	66.5684	66.5684

Warning -- Signal level out-of-range in peak

Missing Component Report
Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-2-Anilinoxypropanol (2a)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-10 9:33:33
Date : 2006-1-10 9:56:12
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 18.32 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-10-1_001.raw
Result File : D:\Huangk\result\hk-2006-1-10-1_001.rst [Editing in Progress]
Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-10-1_001.raw
Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-10-1_001.rst [Editing in Progress]
Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-10-1_001.rst [Editing in Progress]
Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-1-10-1.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		12.892	49066.94	3671.48	0.58	0.58	0.0491	0.0491
2		15.115	8479698.16	293726.57	99.42	99.42	8.4797	8.4797
		8528765.10	297398.04	100.00	100.00	8.5288	8.5288	

Missing Component Report
Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

2-Anilinoxybutanol (2b-racemic)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
 Operator : manager
 Sample Number :
 AutoSampler : NONE
 Instrument Name : Perkin Elmer LC
 Instrument Serial # : None
 Delay Time : 0.00 min
 Sampling Rate : 10.0000 pts/s
 Sample Volume : 1.000000 ul
 Sample Amount : 1.0000
 Data Acquisition Time : 2006-1-6 15:21:38
 Date : 2006-1-6 15:50:27
 Sample Name :
 Study :
 Rack/Vial : 0/0
 Channel : A
 A/D mV Range : 1000
 End Time : 23.27 min
 Area Reject : 0.000000
 Dilution Factor : 1.00
 Cycle : 1

Raw Data File : D:\Huangk\raw\HK-2006-1-6-1-BU_001.raw
 Result File : D:\Huangk\result\HK-2006-1-6-1-BU_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\HK-2006-1-6-1-BU_001.raw
 Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\HK-2006-1-6-1-BU_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\HK-2006-1-6-1-BU_001.rst [Editing in Progress]
 Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
 Sequence File : C:\PenExe\Tc\WS\Ver6.2.0\Examples\HK-2006-1-6-1-BU.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		12.202	35512662.46	1.69e+06	50.16	50.16	35.5127	35.5127
2		14.100	35288926.02	1.44e+06	49.84	49.84	35.2889	35.2889
			70801588.48	3.13e+06	100.00	100.00	70.8016	70.8016

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-2-Anilinoxybutanol (2b)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-6 15:53:16
Date : 2006-1-6 16:54:26
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 20.12 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangkraw\HK-2006-1-6-2-BU.raw
Result File : D:\Huangkresult\HK-2006-1-6-2-BU.rst [Editing in Progress]
Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangkraw\HK-2006-1-6-2-BU.raw
Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangkresult\HK-2006-1-6-2-BU.rst [Editing in Progress]
Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangkresult\HK-2006-1-6-2-BU.rst [Editing in Progress]
Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\HK-2006-1-6-2-BU.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		13.518	919048.49	54870.16	0.96	0.96	0.9190	0.9190
2		15.588	94790887.42	2.88e+06	99.04	99.04		
		95709935.91	2.93e+06	100.00	100.00	0.9190	0.9190	

Warning -- Signal level out-of-range in peak

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

ANALYZED BY

DATE

2-Anilinoxypentanol (2c-racemic)

Software Version	: 6.2.0.0.0:B27	Date	: 2006-1-9 22:13:41
Operator	: manager	Sample Name	:
Sample Number	:	Study	:
AutoSampler	: NONE	Rack/Vial	: 0/0
Instrument Name	: Perkin Elmer LC	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 16.32 min
Sampling Rate	: 10.0000 pts/s	Area Reject	: 0.000000
Sample Volume	: 1.000000 ul	Dilution Factor	: 1.00
Sample Amount	: 1.0000	Cycle	: 1
Data Acquisition Time	: 2006-1-9 21:52:25		

Raw Data File : D:\Huangk\raw\hk-2006-1-9-2-mesopenpal-1_001.raw
 Result File : D:\Huangk\result\hk-2006-1-9-2-mesopenpal-1_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-9-2-mesopenpal-1_001.raw
 Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-2-mesopenpal-1_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-2-mesopenpal-1_001.rst [Editing in Progress]
 Report Format File: D:\Huangk\91-9-1.0-800-60min.rpt
 Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-1-9-2-mesopenpal-1-20060109-214823.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		10.630	22290470.01	1.23e+06	50.78	50.78	22.2905	22.2905
2		12.203	21603325.08	944162.84	49.22	49.22	21.6033	21.6033
			43893795.09	2.18e+06	100.00	100.00	43.8938	43.8938

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-2-Anilinoxypentanol (2c)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-9 22:14:02
Date : 2006-1-9 22:54:25
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 14.65 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-9-d-penpal_001.raw
Result File : D:\Huangk\result\hk-2006-1-9-d-penpal_001.rst [Editing in Progress]
Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-9-d-penpal_001.raw
Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-d-penpal_001.rst [Editing in Progress]
Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-d-penpal_001.rst [Editing in Progress]
Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
Sequence File : C:\PenExe\TcVSI\Ver6.2.0\Examples\hk-2006-1-9-d-penpal.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		3.874	9095.82	3125.97	0.16	0.16	0.0091	0.0091
2		10.320	91757.33	7843.39	1.62	1.62	0.0918	0.0918
3		11.875	5563385.47	239558.24	98.22	98.22	5.5634	5.5634
			5884238.62	250527.59	100.00	100.00	5.6642	5.6642

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

3-Methyl-2-anilioxxybutanol (2d-racemic)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
 Operator : manager
 Sample Number :
 AutoSampler : NONE
 Instrument Name : Perkin Elmer LC
 Instrument Serial # : None
 Delay Time : 0.00 min
 Sampling Rate : 10.0000 pts/s
 Sample Volume : 1.000000 ul
 Sample Amount : 1.0000
 Data Acquisition Time : 2006-1-9 22:58:32
 Date : 2006-1-9 23:14:54
 Sample Name :
 Study :
 Rack/Vial : 0/0
 Channel : A
 A/D mV Range : 1000
 End Time : 16.69 min
 Area Reject : 0.000000
 Dilution Factor : 1.00
 Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-9-6-mesoisopenpal_001.raw
 Result File : D:\Huangk\result\hk-2006-1-9-6-mesoisopenpal_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-9-6-mesoisopenpal_001.raw
 Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-6-mesoisopenpal_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-6-mesoisopenpal_001.rst [Editing in Progress]
 Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
 Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-1-9-6-mesoisopenpal.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		9.343	22526306.09	1.34e+06	49.69	49.69	22.5263	22.5263
2		10.570	22808198.83	1.28e+06	50.31	50.31	22.8082	22.8082
		45334504.92	2.61e+06	100.00	100.00	45.3345	45.3345	

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-3-Methyl-2-anilioxypentanol (2d)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-9 20:52:23

Date : 2006-1-9 23:01:06
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 15.98 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-9-4-isopenpal_001.raw
Result File : D:\Huangk\result\hk-2006-1-9-4-isopenpal_001.rst [Editing in Progress]
Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-9-4-isopenpal_001.raw
Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-4-isopenpal_001.rst [Editing in Progress]
Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-9-4-isopenpal_001.rst [Editing in Progress]
Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
Sequence File : C:\PenExe\Tc\WS\Ver6.2.0\Examples\hk-2006-1-9-3-isopenpal-20060109-205025.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		9.503	270088.98	22586.20	0.41	0.41	0.2701	0.2701
2		10.715	65539451.68	2.88e+06	99.59	99.59		
		65809540.66	2.90e+06	100.00	100.00	100.00	0.2701	0.2701

Warning -- Signal level out-of-range in peak

Missing Component Report
Component Expected Retention (Calibration File)

All components were found

2-Anilinoxyhexanol (2e-racemic)

Page 1 of 1

Software Version : 6.2.0.0.0:B27	Date : 2006-1-10 11:58:35
Operator : manager	Sample Name :
Sample Number :	Study :
AutoSampler : NONE	Rack/Vial : 0/0
Instrument Name : Perkin Elmer LC	Channel : A
Instrument Serial # : None	A/D mV Range : 1000
Delay Time : 0.00 min	End Time : 18.31 min
Sampling Rate : 10.0000 pts/s	Area Reject : 0.000000
Sample Volume : 1.000000 ul	Dilution Factor : 1.00
Sample Amount : 1.0000	Cycle : 1
Data Acquisition Time : 2006-1-10 11:38:21	

Raw Data File : D:\Huangk\raw\hk-2006-1-10-meso-hex_001.raw
 Result File : D:\Huangk\result\hk-2006-1-10-meso-hex_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-10-meso-hex_001.raw
 Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-10-meso-hex_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-10-meso-hex_001.rst [Editing in Progress]
 Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
 Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-1-10-meso-hex.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		10.922	18810758.12	831680.32	50.44	50.44	16.8108	16.8108
2		13.432	16519845.98	677953.33	49.56	49.56	16.5198	16.5198
			33330604.10	1.51e+06	100.00	100.00	33.3306	33.3306

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-2-Anilinoxyhexanol (2e)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-10 13:43:59
Date : 2006-1-10 14:10:36
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 18.11 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-10-hex.raw
Result File : D:\Huangk\result\hk-2006-1-10-hex.rst [Editing in Progress]
Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\raw\hk-2006-1-10-hex.raw
Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-10-hex.rst [Editing in Progress]
Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-1-10-hex.rst [Editing in Progress]
Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
Sequence File : C:\PenExe\TcVSV\Ver6.2.0\Examples\hk-2006-1-10-hex.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		10.277	1050687.88	69695.50	2.48	2.48	1.0507	1.0507
2		12.738	41281344.40	1.64e+06	97.52	97.52	41.2813	41.2813
		42332032.28	1.71e+06	100.00	100.00	42.3320	42.3320	

Missing Component Report
Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

3-Phenyl-2-anilinoxypropanol (2f-racemic)

Page 1 of 1

Software Version	: 6.2.0.0.0:B27	Date	: 2006-1-18 11:48:11
Operator	: manager	Sample Name	:
Sample Number	:	Study	:
AutoSampler	: NONE	Rack/Vial	: 0/0
Instrument Name	: Perkin Elmer LC	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 47.11 min
Sampling Rate	: 10.0000 pts/s	Area Reject	: 0.000000
Sample Volume	: 1.000000 ul	Dilution Factor	: 1.00
Sample Amount	: 1.0000	Cycle	: 1
Data Acquisition Time	: 2006-1-18 10:53:07		

Raw Data File : D:\Huangk\raw\hk-2006-1-18-1_001.raw
 Result File : D:\Huangk\result\hk-2006-1-18-1_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\raw\hk-2006-1-18-1_001.raw
 Proc Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-1-18-1_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-1-18-1_001.rst [Editing in Progress]
 Report Format File: D:\Huangk\90-10 0.5 242 60min.rpt
 Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-1-18-1.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		31.298	29929056.72	590021.05	49.79	49.79	29.9291	29.9291
2		41.005	30183617.53	455151.45	50.21	50.21	30.1836	30.1836
			60112674.25	1.05e+06	100.00	100.00	60.1127	60.1127

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-3-Phenyl-2-anilinoxypropanol (2f)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2006-1-10 14:14:14
Date : 2006-1-18 11:46:50
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 43.00 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2006-1-10--cyclohexone_001.raw
Result File : D:\Huangk\result\hk-2006-1-10--cyclohexone_001.rst [Editing in Progress]
Inst Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\raw\hk-2006-1-10--cyclohexone_001.raw
Proc Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-1-10--cyclohexone_001.rst [Editing in Progress]
Calib Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-1-10--cyclohexone_001.rst [Editing in Progress]
Report Format File : D:\Huangk\90-10 0.5 242 60min.rpt
Sequence File : C:\PenExe\Tc\WS\Ver6.2.0\Examples\hk-2006-1-10--cyclohexone.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		31.372	159274.95	4916.71	0.36	0.36	0.1593	0.1593
2		37.758	43598262.69	791637.55	99.64	99.64	43.5983	43.5983
			43757537.64	796554.25	100.00	100.00	43.7575	43.7575

Missing Component Report
Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

2-Anilinoxycyclohexanone (3a-racemic)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
 Operator : manager
 Sample Number :
 AutoSampler : NONE
 Instrument Name : Perkin Elmer LC
 Instrument Serial # : None
 Delay Time : 0.00 min
 Sampling Rate : 10.0000 pts/s
 Sample Volume : 1.000000 ul
 Sample Amount : 1.0000
 Data Acquisition Time : 2006-1-7 19:55:13
 Date : 2006-1-7 20:56:30
 Sample Name :
 Study :
 Rack/Vial : 0/0
 Channel : A
 A/D mV Range : 1000
 End Time : 38.92 min
 Area Reject : 0.000000
 Dilution Factor : 1.00
 Cycle : 1

Raw Data File : D:\dzy\hk-2006-1-7-1-meso-cyclohexone_001.raw
 Result File : D:\dzy\hk-2006-1-7-1-meso-cyclohexone_001.rst [Editing in Progress]
 Inst Method : D:\Huang\k190-10 0.5 242 60min from D:\dzy\hk-2006-1-7-1-meso-cyclohexone_001.raw
 Proc Method : D:\Huang\k190-10 0.5 242 60min from D:\dzy\hk-2006-1-7-1-meso-cyclohexone_001.rst [Editing in Progress]
 Calib Method : D:\Huang\k190-10 0.5 242 60min from D:\dzy\hk-2006-1-7-1-meso-cyclohexone_001.rst [Editing in Progress]
 Report Format File : D:\Huang\k190-10 0.5 242 60min.rpt
 Sequence File : C:\PenExe\Tc\WS\Ver6.2.0\Examples\hk-2006-1-7-1-meso-cyclohexone-20060107-193635.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		29.815	5567681.21	136951.51	56.26	56.26	5.5677	5.5677
2		35.807	4327994.07	86451.19	43.74	43.74	4.3280	4.3280
			9895675.28	223402.71	100.00	100.00	9.8957	9.8957

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(2R)-2-Anilinoxycyclohexanone (3a)

Page 1 of 1

Software Version : 6.2.0.0.0:B27
Operator : manager
Sample Number :
AutoSampler : NONE
Instrument Name : Perkin Elmer LC
Instrument Serial # : None
Delay Time : 0.00 min
Sampling Rate : 10.0000 pts/s
Sample Volume : 1.000000 ul
Sample Amount : 1.0000
Data Acquisition Time : 2005-12-30 15:03:20
Date : 2005-12-30 15:58:54
Sample Name :
Study :
Rack/Vial : 0/0
Channel : A
A/D mV Range : 1000
End Time : 43.46 min
Area Reject : 0.000000
Dilution Factor : 1.00
Cycle : 1

Raw Data File : D:\Huangk\raw\hk-2005-12-30-1_001.raw
Result File : D:\Huangk\result\hk-2005-12-30-1_001.rst [Editing in Progress]
Inst Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\raw\hk-2005-12-30-1_001.raw
Proc Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2005-12-30-1_001.rst [Editing in Progress]
Calib Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2005-12-30-1_001.rst [Editing in Progress]
Report Format File : D:\Huangk\90-10 0.5 242 60min.rpt
Sequence File : C:\PenExe\TcW\Ver6.2.0\Examples\hk-2005-12-30-1.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		31.100	364977.97	10943.02	0.21	0.21	0.3650	0.3650
2		37.673	1.70e+08	2.88e+06	99.79	99.79	0.3650	0.3650
			1.71e+08	2.89e+06	100.00	100.00	0.3650	0.3650

Warning -- Signal level out-of-range in peak

Missing Component Report

Component Expected Retention (Calibration File)

All components were found

ANALYZED BY

DATE

3-Anilinoxytetrahydropyran-4-one(1h-racemic)

Software Version	: 6.2.0.0.0:B27	Date	: 2006-2-17 22:22:25
Operator	: manager	Sample Name	:
Sample Number	:	Study	:
AutoSampler	: NONE	Rack/Vial	: 0/0
Instrument Name	: Perkin Elmer LC	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 33.73 min
Sampling Rate	: 10.0000 pts/s	Area Reject	: 0.000000
Sample Volume	: 1.000000 ul	Dilution Factor	: 1.00
Sample Amount	: 1.0000	Cycle	: 1
Data Acquisition Time	: 2006-2-17 20:59:49		

Raw Data File : D:\Huangk\raw\hk-2006-2-17-meso-furantone-1.raw
 Result File : D:\Huangk\result\hk-2006-2-17-meso-furantone-1.rst [Editing in Progress]
 Inst Method : D:\Huangk\91-9-1.0-800-80min from D:\Huangk\raw\hk-2006-2-17-meso-furantone-1.raw
 Proc Method : D:\Huangk\91-9-1.0-800-80min from D:\Huangk\result\hk-2006-2-17-meso-furantone-1.rst [Editing in Progress]
 Calib Method : D:\Huangk\91-9-1.0-800-80min from D:\Huangk\result\hk-2006-2-17-meso-furantone-1.rst [Editing in Progress]
 Report Format File : D:\Huangk\91-9-1.0-800-80min.rpt
 Sequence File : C:\PenExcel\TcWSI\Ver6.2.0\Examples\hk-2006-2-17-meso-furantone-1.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		22.527	10388843.37	293882.34	50.97	50.97	10.3888	10.3888
2		30.905	9990385.77	208017.85	49.03	49.03	9.9904	9.9904
			20377209.14	499899.99	100.00	100.00	20.3772	20.3772

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(3R)-3-Anilinoxytetrahydropyran-4-one(1h)

Software Version : 6.2.0.0.0:827
 Operator : manager
 Sample Number :
 AutoSampler : NONE
 Instrument Name : Perkin Elmer LC
 Instrument Serial # : None
 Delay Time : 0.00 min
 Sampling Rate : 10.0000 pts/s
 Sample Volume : 1.000000 ul
 Sample Amount : 1.0000
 Data Acquisition Time : 2006-2-17 21:40:26
 Date : 2006-2-17 22:21:05
 Sample Name :
 Study :
 Rack/Vial : 0/0
 Channel : A
 A/D mV Range : 1000
 End Time : 37.42 min
 Area Reject : 0.000000
 Dilution Factor : 1.00
 Cycle : 1

Raw Data File : D:\Huangk\vw\hk-2006-2-17-PF6-1-furantone-1.raw
 Result File : D:\Huangk\result\hk-2006-2-17-PF6-1-furantone-1.rst [Editing in Progress]
 Inst Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\vw\hk-2006-2-17-PF6-1-furantone-1.raw
 Proc Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-2-17-PF6-1-furantone-1.rst [Editing in Progress]
 Calib Method : D:\Huangk\91-9-1.0-800-60min from D:\Huangk\result\hk-2006-2-17-PF6-1-furantone-1.rst [Editing in Progress]
 Report Format File : D:\Huangk\91-9-1.0-800-60min.rpt
 Sequence File : C:\PenExe\TCWS\Ver6.2.0\Examples\hk-2006-2-17-PF6-1-furantone-1.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		23.940	13243116.78	342149.27	99.41	99.41	13.2431	13.2431
2		33.428	78189.04	2635.31	0.59	0.59	0.0782	0.0782
			13321305.83	344784.59	100.00	100.00	13.3213	13.3213

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

3-Anilinoxy-1-benzylpiperidin-4-one(1i-racemic)

Software Version	: 6.2.0.0.0:B27	Date	: 2006-2-16 11:35:28
Operator	: manager	Sample Name	:
Sample Number	:	Study	:
AutoSampler	: NONE	Rack/Vial	: 0/0
Instrument Name	: Perkin Elmer LC	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 43.62 min
Sampling Rate	: 10.0000 pts/s	Area Reject	: 0.000000
Sample Volume	: 1.000000 ul	Dilution Factor	: 1.00
Sample Amount	: 1.0000	Cycle	: 1
Data Acquisition Time	: 2006-2-16 10:39:50		

Raw Data File : D:\Huangk\raw\hk-2006-2-16-1-N-Bn-meso_001.raw
 Result File : D:\Huangk\result\hk-2006-2-16-1-N-Bn-meso_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\raw\hk-2006-2-16-1-N-Bn-meso_001.raw
 Proc Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-2-16-1-N-Bn-meso_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-2-16-1-N-Bn-meso_001.rst [Editing in Progress]
 Report Format File: D:\Huangk\90-10 0.5 242 60min.rpt
 Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-2-16-1-N-Bn-meso.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		26.900	8241019.94	166422.77	49.65	49.65	8.2410	8.2410
2		34.177	8357851.71	133489.64	60.35	60.35	8.3577	8.3577
			16598871.65	299912.41	100.00	100.00	16.5987	16.5987

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE

(3R)-3-Anilinoxy-1-benzylpiperidin-4-one(1i)

Software Version	: 6.2.0.0.0:827	Date	: 2006-2-16 13:00:53
Operator	: manager	Sample Name	:
Sample Number	:	Study	:
AutoSampler	: NONE	Rack/Vial	: 0/0
Instrument Name	: Perkin Elmer LC	Channel	: A
Instrument Serial #	: None	A/D mV Range	: 1000
Delay Time	: 0.00 min	End Time	: 39.87 min
Sampling Rate	: 10.0000 pts/s	Area Reject	: 0.000000
Sample Volume	: 1.000000 ul	Dilution Factor	: 1.00
Sample Amount	: 1.0000	Cycle	: 1
Data Acquisition Time	: 2006-2-16 12:16:19		

Raw Data File : D:\Huangk\raw\hk-2006-2-16-PF6-N-Bn_001.raw
 Result File : D:\Huangk\result\hk-2006-2-16-PF6-N-Bn_001.rst [Editing in Progress]
 Inst Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\raw\hk-2006-2-16-PF6-N-Bn_001.raw
 Proc Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-2-16-PF6-N-Bn_001.rst [Editing in Progress]
 Calib Method : D:\Huangk\90-10 0.5 242 60min from D:\Huangk\result\hk-2006-2-16-PF6-N-Bn_001.rst [Editing in Progress]
 Report Format File : D:\Huangk\90-10 0.5 242 60min.rpt
 Sequence File : C:\PenExe\TcWS\Ver6.2.0\Examples\hk-2006-2-16-PF6-N-Bn.seq

HPLC REPORT

HPLC REPORT

Peak #	Component Name	Time [min]	Area [uV*sec]	Height [uV]	Area [%]	Norm. Area [%]	Raw Amount	Adjusted Amount
1		27.042	15014296.29	295796.86	99.99	99.99	15.0143	15.0143
2		34.170	896.38	553.11	0.01	0.01	0.0009	0.0009
			15015192.68	296348.97	100.00	100.00	15.0152	15.0152

Missing Component Report
 Component Expected Retention (Calibration File)

All components were found

ANALYZED BY DATE